C. Alternatives

As required by the CEQA, alternatives to the Proposed Project are also evaluated in this EIR. These are alternatives that may have some environmental advantages over the Proposed Project and that could feasibly attain most of the basic project objectives. Section C.1 describes the process through which the potential alternatives to this project were evaluated and selected. Section C.2 describes the alternatives eliminated from EIR analysis. Section C.3 describes the alternatives that were selected for consideration in this EIR and provides a description of the alternative alignments, including the No Project Alternative.

C.1 Alternatives Assessment Process

C.1.1 Alternatives Development and Screening Process

One of the most important aspects of the environmental review process is the identification and assessment of reasonable alternatives that have the potential for avoiding or minimizing the impacts of a proposed project. In addition to mandating consideration of the No Project Alternative, CEQA Guidelines (Section 15126.6(d)) emphasize the selection of a reasonable range of feasible alternatives and adequate assessment of these alternatives to allow for a comparative analysis for consideration by decision-makers.

CEQA requires consideration of a range of alternatives to the project or project location that: (1) could feasibly attain most of the basic project objectives; and (2) would avoid or substantially lessen any of the significant impacts of the Proposed Project. An alternative cannot be eliminated simply because it is more costly or if it could impede the attainment of all project objectives to some degree. However, the State CEQA Guidelines declare that an EIR need not consider an alternative whose effects cannot be reasonably ascertained and whose implementation is remote or speculative. CEQA requires that an EIR include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the Proposed Project.

This screening analysis does not focus on relative economic factors of the alternatives (as long as they are feasible) since the State CEQA Guidelines require consideration of alternatives capable of eliminating or reducing significant environmental effects even though they may "impede to some degree the attainment of project objectives or would be more costly." Likewise, the question of market demand or project need is not considered.

C.1.2 Alternatives Screening Methodology

Alternatives to the Proposed Project were selected based on the input from SFPP, the EIR study team, and the public and local jurisdictions during the EIR scoping hearings. The alternatives screening process consisted of three steps:

Step 1: Define the alternatives to allow comparative evaluation.

Step 2: Evaluate each alternative using the following criteria:

- Potential for reduction of significant impacts of the Proposed Project.
- Technical and regulatory feasibility.
- Consistency with SFPP's objectives and public policy objectives.

Step 3: Determine suitability of the proposed alternative for full analysis in the EIR. If the alternative is unsuitable, eliminate it, with appropriate justification, from further consideration.

Feasible alternatives that did not clearly offer the potential to reduce significant environmental impacts and infeasible alternatives were removed from further analysis. In the final phase of the screening analysis, the environmental advantages and disadvantages of the remaining alternatives were carefully weighed with respect to potential for overall environmental advantage, technical feasibility, and consistency with project and public objectives.

C.1.2.1 Significant Environmental Effects of the Proposed Project

If an alternative clearly does not provide any environmental advantages as compared to the Proposed Project, it is eliminated from further consideration. At the screening stage, it is not possible to evaluate potential impacts of the alternatives or the Proposed Project with absolute certainty. However, it is possible to identify elements of the Proposed Project that are likely to be the sources of impact. A preliminary assessment of potential significant effects of the Proposed Project resulted in identification of the following impacts:

- Water resources that could be degraded by construction or a pipeline accident.
- Biological resources (including listed wildlife and plant species) and sensitive habitats that could be affected by construction or a pipeline accident.
- Construction impacts (traffic, noise, air quality) on sensitive receptors, especially residential areas and schools.
- Potential for operational accidents (product spill, fire) to impact sensitive receptors, especially residential areas and schools.
- Potential for soil or groundwater contamination resulting from a pipeline accident.
- Geologic hazards, including active fault crossing, high ground motion potential, and possible lateral spreading.
- Land use constraints, including Superfund sites.
- Cultural resources along the proposed route.

These impacts were used as the basis for selection and evaluation of alternatives.

C.1.2.2 Feasibility

For the screening analysis, the technical and regulatory feasibility of various potential alternatives was assessed at a general level. Specific feasibility analyses are not needed for this purpose. The assessment of feasibility was directed toward reverse reason, that is, an attempt was made to identify anything about the alternative that would be infeasible on technical or regulatory grounds. CEQA does not require elimination of a potential alternative based on cost of construction and operation/maintenance. For the Proposed Project, those issues relate to:

- Crossing of rivers and freeways (boring under major rivers or freeways requires an area for excavation on each side of the crossing).
- Availability of space in roads and railroad or utility corridors, and the likelihood of obtaining a right-of-way easement from these owners.

C.1.3 Summary of Screening Results

Potential alternatives were reviewed against the criteria presented above. A number of alternative routes were eliminated based on the infeasibility of constructing and operating a pipeline along the identified routes. Those alternatives that were found to be technically feasible and consistent with the Applicant's objectives were reviewed to determine if the alternative had the potential to reduce the environmental impacts of the Proposed Project.

Potential alternatives are listed in Table C-1 according to the determination made for analysis. Those listed in the first column have been eliminated from further consideration (see rationale in Section C.2), and those in the second column are evaluated in detail in Section D of this EIR and are described in detail in Section C.3. Note that transport of products by truck and/or train is considered as part of the No Project Alternative.

Table C-1. Summary of Alternative Screening Results *

Alternatives Eliminated from Consideration	Alternatives Evaluated in this EIR
SFPP's Alternative 3 (Honker Bay Alternative)	Existing Pipeline ROW Alternative (SFPP's Alternative 1)
SFPP's Alternative 4 (Sherman Island Alternative)	No Project Alternative
SFPP's Alternative 5 (Stockton Alternative)	

* SFPP's Alternative 2 is the Proposed Project.

C.2 Alternatives Eliminated from Full Evaluation

Several potential alternatives were assessed for their ability to reasonably achieve the project objectives and reduce the significant environmental impacts of the Proposed Project. Also, their technical and regulatory feasibility was evaluated. Based on these screening criteria, the alternatives listed in the first column of Table C-1 above were eliminated from detailed EIR consideration. The following discussions describe these potential alternatives and the basis for their elimination. Figure C-1 illustrates the routes that were considered, but eliminated from EIR consideration.

C.2.1 SFPP's Alternative 3 – Honker Bay

Description. As illustrated in Figure C-1, Alternative 3 would travel east from the Concord Station, following SFPP's existing Line Section (LS) 90 through Concord, the Concord Naval Weapons Station, and Pittsburg until it reached Bay Point, an unincorporated area of Contra Costa County. At this point, it would head north into Solano County and across Honker Bay. It would then travel northeast across Grizzly Island, and intersect with and parallel the proposed pipeline route at Dozier, continuing along the same route as the proposed route. Alternative 3 would be the shortest route of those considered by SFPP in its initial screening, totaling approximately 57 miles.

Rationale for Elimination. This alternative would pass through populated areas in eastern Contra Costa County where there is the potential for environmental justice concerns resulting from construction and operational impacts in areas of high-minority and/or low-income populations. In addition, the route would pass through Yolo Bypass Wildlife Area, Grizzly Island Wildlife Refuge, and several slough channels, including Montezuma Slough, where there is habitat for several special status plant, fish, bird, and mammal species. ROW concerns related to acquiring the required easement from the Department of Defense to enter the Concord Naval Weapons Depot may be a substantial obstacle for this alignment. The route would have the least archeological sensitivity, would avoid the densely populated downtown/redevelopment areas of Pittsburg and Antioch, and also would avoid Elmira and Davis. Potential significant issues related to land use, ROW acquisition, biological resources, and environmental justice are the reasons that this alternative was eliminated from further analysis and consideration.

C.2.2 SFPP's Alternative 4 – Sherman Island

Description. Alternative 4, also illustrated on Figure C-1, would be approximately 67 miles long and would travel east through Concord, Pittsburg, and Antioch, then turn north at Bridgehead, an unincorporated area of Contra Costa County. It then would cross the San Joaquin River into Sacramento County,

continuing on Sherman Island. Alternative 4 then would cross over the Sacramento River into Solano County, traveling through the Montezuma Hills, crossing over the Cache Slough and through Liberty Island. It then would meet the proposed route and Alternative 3 near the Solano/Yolo County border, where it would continue to follow those routes to the West Sacramento terminal.

Rationale for Elimination. ROW issues related to acquiring the required easement from the Department of Defense to enter the Concord Naval Weapons Depot may be a substantial obstacle for this alignment. In addition, this alternative crosses through almost 20 miles of tidal wetlands, comes within one mile of the USFWS Antioch Dunes Preserve, which supports some of the only known populations of Contra Costa wallflower and Antioch Dunes evening primrose, and traverses areas of salt marsh on Sherman Island and the rolling topography through the Montezuma Hills. All of these areas support a wide variety of special status fish, birds, plants, and mammals.

One known prehistoric burial site exists near the Delta crossing in Antioch, adjacent to Alternative 4. In addition, two prehistoric burial/midden sites exist near this route; one of which appears to adjoin the proposed ROW, and some form of mitigation may need to be employed to construct through the site. This alternative otherwise presents few obstacles in terms of known resources. Very little of the area, however, has been subject to previous survey, and the entire terrestrial part of the route (± 55 miles), perhaps excluding some parts of the Yolo Bypass area, would have to be surveyed. The route also crosses Sherman Island and parallels the Delta along Pittsburg and Antioch, all locations with a high archaeological sensitivity, even though sites are not known in the immediate ROW vicinity. Alternative 4 was evaluated as an alternative to the Proposed Project because of constraints with ROW, constructability, potential land use, biological resources, and cultural resources issues.

C.2.3 SFPP's Alternative 5 (Stockton Alternative)

Route Description

General Description of the Stockton Alternative Route. The Stockton Alternative (see Figure C-1) would follow the existing SFPP Line (LS 9) out of the Concord Substation to the south then would head east towards Stockton, paralleling the Mokelumne Aqueduct east of Bixler and into San Joaquin County. It joins the UPRR in Stockton and continues northwest along the UPRR ROW until it reaches Lincoln Village, an unincorporated area of San Joaquin County. From there it travels west then northwest into Sacramento County, crosses the Sacramento River Deep Water Ship Channel, and continues to the SFPP West Sacramento terminal.

Two options for the westernmost segment of the Stockton Alternative were evaluated: the Southern Route Option and the Northern Route Option (both are illustrated on Figure C-1).

Description of the Southern Route Option. The Southern Route Option of the Stockton Alternative would leave from Concord Substation in Contra Costa County heading south on Solano Way for approximately one-half mile. It would then turn east onto Olivera Road, staying in or along Olivera Road and crossing Highway 242 then Port Chicago Highway. At MP 2.5, the line would turn east into the Concord Weapons Depot, cross Willow Pass Road, and continue across the Weapons Depot property. The Southern

Figure C-1. Alternatives Eliminated from EIR Consideration

Route Option would cross Bailey Road, leave the depot, and parallel Myrtle Street behind the homes to the north. At MP 7.3, the route would turn northeast up the hills paralleling Kirker Pass Road. It would then cross Kirker Pass Road, heading east over the hills. At Somerville Road, the route would turn onto Somerville Road for approximately one-half mile then on to James Donlon and remain in or parallel to James Donlon. At this point, it would head behind the homes paralleling Lone Tree Way. It would return to Lone Tree Way then turn north up Dear Valley Road. At approximately MP 19.6, the Stockton Alternative would head east across the fields for approximately two miles. The route would turn east on Balfour Road, then southeast onto Fairview Road where it would pick up the water canal to follow it east behind the homes. The route would turn north to Bixler and meet up with the Mokelumne Aqueduct, joining the Northern Route Option at that point.

Description of the Northern Route Option. This route option was evaluated in SFPP's route evaluation process as Alternative 5. It would begin at the SFPP Concord Station and would head south along Solano Way to Arnold Industrial Way. It would turn east along Arnold Industrial Way to Port Chicago Highway, then south along Port Chicago Highway to Highway 4. Heading east along Highway 4, the route would cross Willow Pass Road. It would continue northeast and then east along Willow Pass Road to Parkside Drive. The route would turn east along Parkside Drive to Railroad Avenue, cross Railroad Avenue, and continue southeast parallel to UPRR to 14th Street. The line would continue along 14th Street to Pittsburg-Antioch Highway, where it would travel southeast and then east along Pittsburg-Antioch Hwy to 10th Street. The route would turn on 10th Street, then north onto A Street, and east onto Wilbur Avenue. It would follow Wilbur Avenue to BNSFRR where it would continue southeast in private property parallel to BNSFRR to Bixler Road and the Mokelumne Aqueduct where it would join the Southern Route Option.

Description of the Remainder of the Route. The route would follow the Mokelumne Aqueduct into San Joaquin County as it crosses the Old River and onto Stockton. In Stockton, the route would meet the Western Pacific Railroad and turn north, following railroad ROW. Just past Franklin, the route would head west, cross through Sacramento County and then the Sacramento River where it would enter Yolo County. It would meet up and follow railroad ROW across the Sacramento Deep Water Channel and into West Sacramento.

C.2.3.1 Comparison of Northern and Southern Route Options

The land uses along the two route options between Concord and Bixler (just east of Brentwood, where the two lines converge) were compared based on a reconnaissance survey of the routes. Table C-2 presents summary data.

Both routes would pass through a significant length of residential areas, but those along the Northern route are older and on narrower streets than those along the Southern route that are newer and on wider, often divided roads. The Northern route has a much higher percentage of industrial land, while the Southern route has a larger amount of open/agricultural land, both of which are good for pipeline routing. The Northern route would pass through some high-minority areas, while the Southern route would not. Overall, Staff believes that the Southern route is preferred over the Northern route for a products pipeline because of the lack of major Environmental Justice concerns, greater use of open space, and wider residential streets.

C.2.3.2 Potential Impacts

This alternative was chosen for further analysis because it would avoid crossing the Carquinez Strait. However, at approximately 90 miles, it would be the longest route and there would be major constraints with cultural and biological resources, ROW acquisition, potential land use and environmental justice issues, and constructability. Issue areas with potential impacts are discussed below.

Table C-2. Comparison of Northern and Southern Route Segments

	Northern Route (SFPP's Alt 5)	Southern Route
Route Description	In or adjacent to RR ROW: Arnold Industrial Way – Willow Pass – Parkside – 14th – Pittsburg-Antioch Hwy – 10th Street – railroad ROW	In roads: Olivera Road – Weapons Depot – Kirker Pass Rd – Somersville Rd – James Donlon Rd – Lone Tree Way – Deer Valley
Length	26 miles	29 miles
Other Issues	Potential historic downtown areas with relatively narrow streets	Newer, wider residential streets, generally with medians
LAND USES[1]		
Industrial	34%	2%
Open/Agricultural	33%	61%
Commercial	7%	1%
Residential (including areas of mixed Commercial/Residential)	26%	36%
OTHER FACTORS[1]		
Environmental Justice[2]	15%	0

[1] The percentages are rough approximations

[2] Areas with high minority populations

Contamination. The Stockton Alternative would cross through the Concord Naval Weapons Station, which is both a Federal and State Superfund site. The contaminated areas include sites in the tidal area as well as several Solid Waste Management Units. Soil, sediments and surface water are contaminated with chemicals, heavy metals, pesticides and semi-volatile organic compounds. The contamination poses a possible threat to human health if they come into contact with the contaminated soil, sediment, or surface water. The contamination also poses a threat to endangered species such as the Salt Marsh Harvest Mouse and the California Capper Rail as the contaminated wetlands are critical habitats to these and other species. The Naval Weapons Station has removed some of the contaminated soil and there is also a Federal Facilities Site Remediation Agreement between the Navy and California. This site is still active on the Federal and State Priorities lists. If this route is chosen, the Navy would contact the EPA, who in turn would determine what actions would need to take place.

Constructing a pipeline near a Superfund site is considered a constraint because contaminated soils and hazardous soil vapors, which could significantly slow construction, could be encountered. The crew working in the area would likely require hazardous materials health and safety training. In addition special soil handling practices and chemical lab analysis would be required for potentially contaminated soil and groundwater encountered during construction. There may also be a potential additional cost related to the hazardous waste disposal. Constructing a pipeline near a Superfund site may require additional requirements with the Environmental Protection Agency (EPA) and/or the Department of Toxic Substance Control (DTSC). A one-half mile radius from this alternative was researched for Superfund sites.

Geologic Hazards. Major constraining geologic hazards along this route would consist of an active fault crossing and possible lateral spreading hazards. This alignment extends across the State designated Earthquake Fault Hazard Zone of the Concord–Green Valley Fault within the Vine Hill Quadrangle. The alignment crosses an active strand of the northwest-striking right-lateral strike-slip fault at a favorable orientation. Possible lateral spreading hazards occur at numerous locations where the alignment extends across or near the margins of a channel, river, or other body of water with the potential for slope or embankment failure.

Biological Resources. The amount of natural habitat that would be affected by this alternative would be almost twice that associated with the Proposed Project and other alternatives. North of Stockton, this alternative would pass through a 40-mile stretch of agricultural lands, native grasslands containing vernal pools, and riparian habitat associated with perennial rivers and intermittent streams. The route would pass through several wildlife habitat preserves including the Nature Conservancy's Cosumnes River Preserve and the USFWS Stone Lakes National Wildlife Preserve.

Agricultural and natural areas along the route provide important habitat for wintering waterfowl including lesser and occasionally greater sandhill crane, a State threatened species. Riparian areas also provide nesting habitat for several migratory and resident passerines as well as the State listed Swainson's hawk. The valley elderberry longhorn beetle, another special status species, is also likely to occur within riparian habitats along the route. Fairy shrimp and tadpole shrimp are known to occur within vernal pools in grasslands adjacent to the alternative and may occupy depressed areas that pond winter rains along the UPRR berm. The majority of lands surrounding the alignment between Sacramento and Lodi have been designated by CDFG as Significant Natural Areas due to the number of special status species and sensitive habitats found there.

Land Use. The Stockton Alternative would cross the Concord Naval Weapons Station. In addition, it would also run adjacent to the Rough and Ready U.S. Naval Communication Station in Stockton. This alternative follows the former UPRR alignment, parallel to Interstate 5, from Stockton to south of Sacramento. The Stockton Alternative would run through the Cosumnes River Preserve, which is owned and managed by the Nature Conservancy. This route would cross the Sacramento River, San Joaquin River, Babel South, Old River, and Middle River, which may all fall under the jurisdiction of the CSLC. It would also cross Interstate 5, north of Franklin. Northwest of the Interstate 5 crossing, the route would pass through the Stone Lakes National Wildlife Refuge, managed by USFWS.

Cultural Resources. No specific sites were identified for this alternative, but it is known that previous surveys in the area have identified high site density near the major drainages (Cosumnes, San Joaquin, Mokelumne), and there is a high site density near the town of Thornton, as it is near the junction of several major waterways. In addition, prehistoric burial/midden sites YOL-18 and YOL-132 exist near the proposed route; the latter site appears to adjoin the proposed ROW, and some form of mitigation may need to be employed to construct through the site. Survey of this route would be required over its entire length, resulting in the most survey requirements and a fairly high site density.

The Native American groups with tribal claims to the route area include the Costanoan (Ohlone) in Concord, and Eastern Miwok in Pittsburg and Antioch and the western San Joaquin and eastern Yolo County areas to Sacramento. The project can expect Native American input at some point in the environmental assessment process, perhaps leading to their involvement as observers during construction monitoring near prehistoric sites and in upland areas. Any required mitigation (manual excavation or testing) at known or discovered prehistoric sites would require participation of a local Native American representative (hired at the project's discretion). The discovery of human remains triggers Native American Heritage Commission assignment of a Most Likely Descendant; this individual would make formal recommendations as to the treatment and disposition of human remains and artifacts associated with project work.

C.2.3.3 Rationale for Elimination

Compiled from research and site reconnaissance, Table C-3 summarizes the pros and cons of this route in comparison with the proposed route. In accordance with CEQA, the first column of the table summarizes the potentially significant impacts of the proposed route. Table C-3 assumes use of the Southern Route Option based on the conclusion above, that it would be preferred over the Northern Route.

Table C-3. Comparison of the Stockton Alternative to the Proposed Route

Potential Impacts of Proposed Route	Potential Impacts of Stockton Alternative
• Crossing Carquinez Strait	• Crossing several major rivers (Sacramento River, Middle River, Cosumnes River, San Joaquin River)
• Close proximity to residential areas (2-4 miles)	• Close proximity to residential areas (>20 miles)
• Passes through marsh and wetland areas of north Delta	• Passes through marsh and wetland areas of east Delta and near Sacramento River
• Potential impacts to sensitive plants	• Similar but over greater mileage
• Fewer Environmental Justice communities of concern	• Stockton and east of Stockton include high-minority areas
• Over 50 water crossings	• Likely to be over 70 water crossings (not verified)
• No major preserves/refuges	• Cosumnes River Preserve; Stone Lakes Wildlife Refuge[1]
• Approximately 70 miles long	• Approximately 90 miles long (greater length increases spill risk)
• Minimal traffic impacts during construction	• Railroad ROW infeasible through central Stockton due to residential land uses; reroute to heavily traveled commercial roads would be required

[1] These preserves could be avoided by turning west and following levees along the Sacramento River, but construction of a petroleum products pipeline through or adjacent to the levees along the Sacramento River would also be problematic.

Based on potential impacts described above and summarized in Table C-3, the Stockton Alternative does not appear to have the potential to reduce the significant environmental effects of the Proposed Project without causing more severe significant impacts of its own. Therefore, this alternative is eliminated from full evaluation in the EIR.

C.3 Alternatives Evaluated in this EIR

C.3.1 Introduction

An alternative pipeline route could replace a portion of the proposed route or the entire route. Alternative routes would not affect the ability of the Proposed Project to achieve the desired project objectives. Therefore, these alternatives were considered in context of their ability to reduce the significant environmental impacts of the Proposed Project and their technical and regulatory feasibility.

Through the alternatives screening process described in Section C.1, one alternative route alignment was chosen for detailed analysis in this EIR. This alternative, the Existing Pipeline ROW Alternative, is illustrated in Figure C-2 and is described in Section C.3.2. The No Project Alternative is described in Section C.3.3. The alternative routes that were considered and subsequently eliminated from further consideration are described in Section C.2 (above).

C.3.2 Existing Pipeline Right-of-Way (ROW) Alternative

C.3.2.1 Route Description

The Existing Pipeline Right-of-Way (ROW) Alternative (see Figure C-2 and more detail on Figure B-2) would follow the route of SFPP's existing Line Section 25 from Concord to West Sacramento. It would be nearly entirely within UPRR ROW. The route would begin in Concord and travel northward across the Carquinez Strait. It would enter Solano County, traveling through Benicia and paralleling the Union Pacific Railroad (UPRR) for the entire route. It would continue along the UPRR ROW northeast

Figure C-2. Existing Pipeline ROW Alternative

across Suisun Marsh and pass through Fairfield. The Existing Pipeline ROW Alternative route would maintain its northeastern travel along the UPRR ROW through the City of Dixon, then enter Yolo County and travel in a more easterly direction to its final destination in West Sacramento, just west of the Sacramento River and the Sacramento County line. This alternative would be approximately 59.92 miles long. Project mileage is presented in Table C-4, along with a comparison to Proposed Project mileage within each jurisdiction.

Detailed description of the Existing Pipeline ROW Alternative. The pipeline would depart SFPP's Concord Station at 1550 Solano Way in Contra Costa County and follow railroad ROW along Solano Road to the north. It would turn west at Waterfront Road and cross Pacheco Slough. The pipeline would parallel Waterfront Road in UPRR ROW until just east of Interstate 680 (I-680), where it would turn north and enter Shore Terminal then Rhodia property. It would travel down a slope toward the Carquinez Strait would continue 6,000 feet across the Carquinez Strait, using the Phase 1 categories described in Section B.3.2.

Table C-4. Project Mileages by Jurisdiction

	County Totals				Individual Jurisdictions								
Jurisdiction	Contra Costa County	Solano County	Yolo County	Unincorp Contra Costa Co	City of Martinez	Unincorp Solano County	City of Benicia	City of Fairfield	City of Suisun City	City of Dixon	Unincorp Yolo Co	City of Davis	City of West Sacto
Proposed Project	5.7	45.3	19.7	3.4	2.3	32.5	3.8	6.6	2.4	0.0	14.4	0.0	5.3
Existing Pipeline ROW Alternative	5.3	40.4	14.2	3.4	1.9	30.2	3.1	4.7	0.6	1.8	6.9	2.9	4.4

On the north shore of the Carquinez Strait, the route would continue north for approximately 100 feet through an open vegetated area. After the open area, the pipeline would turn easterly underneath the future Caltrans I-680 bridge overpass and continue through paved property north of an existing levee in the City of Benicia.

In the City of Benicia, the route would travel through car lots, crossing Sulphur Springs Creek and following the UPRR tracks, which parallel I-680. It would continue to follow the UPRR ROW and would enter unincorporated Solano County jurisdiction. The route would deviate from the vicinity of the Proposed route and travel northeast across the Suisun Marsh in UPRR ROW to the Cities of Fairfield and Suisun City.

The Existing Pipeline ROW Alternative would continue to follow UPRR tracks, entering into the Cities of Fairfield and Suisun City, and paralleling the proposed route along Railroad Avenue and also along Vanden Road. The pipeline would continue northeast along the UPRR ROW into unincorporated Solano County. The route would parallel A Street through Elmira, an unincorporated town in Solano County, and would continue towards the City of Dixon.

The route would parallel Porter Street into the City of Dixon, travel through the downtown area, and would then again enter unincorporated Solano County. For approximately 1.1 miles, the route would enter University of California, Davis property south of the City of Davis, before crossing I-80 and entering into Yolo County then the City of Davis. Through most of the 3-mile stretch in the City of Davis, the UPRR ROW route would parallel Second Street. From the City of Davis, the Existing Pipeline ROW Alternative would continue east until it would meet up with the proposed pipeline route again west of West Capitol Avenue in the City of West Sacramento.

The route would continue to follow along the south side of the UPRR ROW until turning south towards West Capitol Avenue. It would travel east adjacent to West Capitol Avenue, then south under I-80 onto

Enterprise Avenue. The pipeline would turn east onto Industrial Boulevard, travel through lands of the Port of West Sacramento at Terminal Street, and join Port Access Road along the north side of the Sacramento River Deep Water Channel. After turning north onto South River Road, the route would enter SFPP's West Sacramento Station.

Table C-5. Major Waterway Crossings – Existing Pipeline ROW Alternative

Crossing Number	Waterway Name	Crossing Number	Waterway Name
1	Pacheco Creek	11	Laurel Creek
2	Peyton Slough	12	Alamo Creek
3	Carquinez Strait	13	Gibson Canyon Creek
4	Goodyear Slough	14	McCune Creek
5	Sulphur Springs Creek	15	South Fork of Putah Creek
6	Cordelia Slough	16	Putah Creek
7	Chadbourne Slough	17	Willow Slough
8	Wells Slough	18	West Yolo Bypass
9	Boynton Slough	19	East Yolo Bypass
10	Peytonia Slough	20	Washington Lake

C.3.2.2 Water Crossings

The Existing Pipeline ROW Alternative would cross approximately 20 major waterbodies (see Table C-5) and more than 15 other small streams and canals. These crossings would range from 25 to 50-foot creek or canal crossings to a 6,925-foot crossing of the Carquinez Strait. The Existing Pipeline ROW Alternative would cross the same five waterways under CSLC jurisdiction (Walnut Creek, Grayson Creek, Pacheco Creek, Carquinez Strait, and Cordelia Slough) as the Proposed Project route. The crossing techniques would be similar to the proposed pipeline methods using the horizontal directional drill (HDD), slick bore, cased bore, or open cut construction methods.

C.3.2.3 Reason for Alternative Consideration

The Existing Pipeline ROW Alternative was developed and analyzed in an attempt to reduce or avoid impacts of the Proposed Project. This alternative and the proposed pipeline route are very similar for almost 20 miles between Concord and Sacramento, though the proposed route is almost ten miles longer. The alternative route was chosen primarily because it would parallel an existing hazardous liquid 14-inch pipeline route and because it would follow railroad ROW which is already disturbed. The use of an established ROW would reduce construction impacts to both roads/transportation and also to biological and cultural resources. The majority of the route follows railroad corridors, which tend to be flat, straight, and travel the most direct route between two points. The shorter distance would reduce construction impacts associated with all issue areas. This alternative would traverse tidal and diked wetlands in the Suisun Marsh, which is a designated Significant Natural Area by the CDFG. However, it would cross the Vic Fazio (Yolo Bypass) Wildlife Area for less than half of the distance that the Proposed Project route would.

Potential environmental impacts of the Existing Pipeline ROW Alternative are discussed by issue area in Section D. The following list summarizes the reasons that this alternative was retained for further analysis:

- Shorter length.
- Parallels an existing hazardous liquid pipeline.
- In an established and disturbed railroad ROW, which minimizes construction impacts.
- Shorter route through the Yolo Bypass Wildlife Area.

C.3.3 No Project Alternative

CEQA requires analysis of the No Project Alternative, which is to include consideration of (a) existing conditions and (b) reasonably foreseeable future conditions that would exist if the Proposed Project were not approved [CEQA Guidelines Sec. 15126(d)(4)]. Under the No Project Alternative, it is assumed that the Proposed Project would not be built. SFPP's existing pipelines between Concord and Sacramento

would continue to be used, and could be modified to allow increased throughput. In addition, as demand grows, it is possible that other forms of product transportation would have to be utilized increasingly, including truck and rail transport.

The shipping of petroleum products via pipeline is generally considered to be the safest means of transportation when compared to either trucking or rail transportation. In addition to accident and spill frequency being lower, pipeline transportation provides the benefit of minimizing the connections and transfers required between a mobile unit (truck or rail car) and interim or ultimate on-land storage locations, thereby reducing the likelihood of accidents at these points. In addition, both trucks and trains use diesel fuel and cause significant air emissions, and both contribute to regional traffic congestion.

Use of trucks and trains is also more expensive than shipping products via pipeline. From SFPP's perspective, the principal disadvantage of pipeline transportation is the high initial capital cost of constructing a pipeline project. Once constructed, the operational costs and environmental effects of transporting petroleum products via pipeline are considerably less than the truck and rail transportation modes.

Given the relatively high cost of transporting product by truck, especially over long distances, the most likely scenario for distribution of petroleum products if the Proposed Project were not constructed would involve SFPP expanding the capacity of its existing pipeline system between Concord and Sacramento. With upgrades to these two existing line segments, such as booster pump stations, the current capacity of the pipelines could increase to ship most if not all of the expected demand (assumed to be 200,000 barrels per day). Trucks could be used to serve any additional demand.

C.3.3.1 Expected Growth in Demand for Petroleum Products

SFPP does not refine petroleum in California, nor does it sell retail or wholesale petroleum products. SFPP simply provides pipeline transport capacity to companies that want to ship refined petroleum products to a particular region, in this case to Sacramento, other northern California areas, and Reno. Attempting to define future product shortfalls in specific market areas is difficult and requires speculation, because the actual supply in a given market is subject to the requirements and business strategies of many individual shippers (i.e., an oil company such as Shell, ARCO, or Chevron). When shipping demand exceeds pipeline capacity on a common carrier line, shipments of each shipper are reduced on a pro-rated basis to the capacity of the line. With the constant changing of market strategies, both by major oil companies and independents, it is difficult to predict future supply and demand. However, SFPP's estimates for the area indicate that by the year 2010, additional capacity of about 21,000 barrels per day would be needed. SFPP states that the existing 35-year-old, 14-inch pipeline cannot be engineered to carry more than its estimated maximum capacity of 150,000 barrels per day.

SFPP proposed the Concord to Sacramento Pipeline Project in response to forecasted growth in product consumption rates for the Sacramento area and beyond, and because the existing 14-inch pipeline is now over 35 years old. SFPP's projections indicate particularly substantial growth in markets in Central and Northern California and Nevada.

The only other carrier that operates a product pipeline between Concord and Sacramento is Chevron USA. Chevron's pipelines are proprietary, shipping only product that was refined at its own refineries. Therefore, Chevron would not be able to serve increasing demand from other petroleum companies in the Sacramento area. As a result, its pipelines were not considered in the No Project scenario.

C.3.3.2 No Project Alternative Scenario

It is difficult to develop a single scenario predicting the distribution of petroleum products in the absence of SFPP's Proposed Project. A wide range of decisions could be made by both shippers (i.e., oil

companies) and by SFPP (as the primary transporter of refined products in the region) about which destinations would have priority for receiving product via pipeline. SFPP would not be constructing its proposed new pipeline under the No Project scenario, and it is assumed that no other new pipeline would be built since none are currently proposed. Therefore, this scenario is based primarily on anticipated modification of existing pipelines, and secondarily, on the use of trucks to respond to increased demand. The methods of petroleum product transportation that would likely be used in the No Project scenario include the following. It is noted that this scenario is speculative, and that the CSLC cannot require SFPP to take these actions if the Proposed Project were not approved.

Repair of SFPP's Existing Line Section 25 (Concord to West Sacramento)

The route of this existing 14-inch diameter pipeline is described in Section C.2.3 above. It is nearly all within UPRR ROW and is about 60 miles long. Line Section (LS) 25 was built over 35 years ago and has a current capacity of 150,000 BPD. While SFPP proposes to discontinue use of this line for petroleum product shipment when the Proposed Project is operational, the existing pipeline could still be used, and its capacity upgraded with relatively minor construction if the Proposed Project were not approved. Some minimal construction (e.g., repairs and/or pipe segment replacements) may be necessary along certain segments of the line, which SFPP would deem as either high risk, or located in high consequence areas. The No Project scenario assumes that approximately 6 miles (10% of the total line length) of pipeline on LS 25 would require repair or replacement and associated construction impacts.

The Applicant is currently injecting drag reducing agents (DRA) into the line at Concord Station to increase the capacity of the existing system. Reportedly, this has increased the maximum line throughput by approximately 15%.

To increase the flow rate and respond to increased demand, two or more booster pump stations could be constructed along the line. (The line currently has one intermediate booster station, located at Elmira. The addition of booster pump stations could also allow the maximum operating pressure to be reduced. This upgrade would significantly reduce the pipe stresses and the risk of longitudinal weld seam failures in the existing pre-1970 ERW pipe. Booster pump stations would require between one and five acres, depending on the need for a relief tank and other variables (e.g., power source, layout, storage of emergency response equipment, etc.).

Even with the reduced pressure, the existing pipeline still would have a forecasted higher leak incident rate than the new pipeline due to its age (see Section D.2, Pipeline Safety and Risk of Accidents). As a result, the impact of potential spills during operation would likely be greater from the existing line than from the proposed new line.

Considering that the Applicant is already injecting DRA into the line, the No Project Scenario assumes that the capacity of this line could be increased by an additional 25% (37,500 BPD).

Repair of SFPP's Existing Line Section 9 (Concord to Stockton to Eastern Sacramento)

SFPP's LS 9 is a 10-inch pipeline that was built in 1957 and heads east from Concord Station. The MAOP for the first 22.5 miles of LS 9 is 1,425 psig; the MAOP for the remainder of the pipeline is 1,390 psig. At Stockton Junction (MP 42.7), a portion of the stream continues on in LS 9 and a portion of the stream is diverted to another pipeline, LS 62. LS 62 delivers product to Stockton Terminal. LS 9 delivers product to Bradshaw Terminal (eastern Sacramento). Bradshaw Terminal has truck-loading facilities and SFPP's Sacramento Station does not. Because the Bradshaw Terminal also serves the Sacramento area and offers truck loading facilities that allow shippers to distribute product to Sacramento area retailers, this pipeline system is considered to be an essential part of the No Project scenario. The No Project

scenario assumes that approximately 10 percent of the pipeline on LS 9 (about 9 miles) would require replacement and associated construction impacts.

The total capacity at 100% utilization factor (Bradshaw and Stockton combined) is 95,000 barrels per day (34,675,000 barrels per year). Total throughput (Bradshaw and Stockton combined) for 2001 was 29.5 million barrels. Total throughput for 2002 was 31.1 million barrels. Similar to SFPP's Concord-Sacramento line (LS 9), this line essentially is at capacity now and would be unable to serve additional demand without improvement.

Construction of booster pump stations and other pipe improvements (e.g., requirement of short pipe segments in high-risk areas or in areas where an accident would be especially damaging) along the Concord-Stockton and Stockton-Bradshaw line segments would allow increased throughput at lower operating pressures. As for LS 25, a booster pump station would require between one and five acres of land.

The No Project Scenario assumes that the capacity of this line could be increased by 40% (an additional 38,000 BPD).

Trucks

Refiners could carry product to retailers by truck if the required pipeline capacity were not available. This method is more expensive than pipeline shipment of products (after the initial capital cost of construction), but it does offer flexibility to the shipper. However the potential truck exhaust emissions, noise, traffic congestion and the risk of truck spillage or accidents in local communities would be greater than transport via pipeline (see analysis in Section D).

In this No Project Scenario, it is assumed that the required additional throughput to serve future demand would be accommodated through making relatively minor improvements to the existing pipelines. However, trucking could also be used. If trucks made up the entire amount of the additional volume that would be shipped in the new pipeline (up to 48,000 BPD above current capacity of 152,000 BPD), an estimated 97,455 tanker truck trips per year[1] would be required.

Trains

Train transport of refined products is feasible, but would also require some construction and additional capital investment, including construction or upgrades of train loading and unloading facilities in Concord and Sacramento. This scenario assumes that the most likely result if the project were not approved would be the improvement to existing pipelines, but trains could also be used to transport product.

[1] 97,455 trucks per year = 267 tanker trips per day @ 180 bbl/truck = 48,000 BPD